

REMARKS/ARGUMENTS

Claims 1, 18–21, 24–30, and 36 are pending in the application, with Claim 1 being an independent claim. Claims 2–17, 22–23, and 31–35 were previously canceled. Claims 1, 18, 21, 24–25 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,118,426 to Albert et al. (hereinafter “Albert”). Claims 19–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of U.S. Patent No. 6,437,985 to Blanc et al. (hereinafter “Blanc”). In addition, Claims 26–30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of U.S. Patent No. 6,950,023 to Martin, and Claim 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of U.S. Patent No. 6,427,065 to Suga et al. (hereinafter “Suga”).

Applicant disagrees with each of these rejections and respectfully requests reconsideration of each of the claims in view of the following remarks.

The Claimed Invention

Independent Claim 1, as amended, recites “an electronic label comprising a housing having at least one wall, a display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, the antenna layer extending along the wall in such a manner as to constitute a stack with the wall.” The antenna layer comprises “at least a first antenna head and at least a second antenna head spaced from the first antenna head such that an area, through which the electronic display is viewable, is at least partially defined in the antenna layer between the first and second antenna heads.” Furthermore, “the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor.” Support for the amendment can be found throughout the specification, for example at page 4, lines 13–20 and page 7, lines 27–35. Claims 18–21, 24–30, and 36 depend from Claim 1.

To put the claimed invention in context, the claimed invention relates to a new transmit antenna that is used for transmitting information from an electronic price label to a central station. This antenna is much less bulky and cheaper than conventional transmitting antennas in the range of frequencies of 433MHz, which are typically projecting perpendicularly outwards from the label by about 17 cm and require a ferrite rod. *See, e.g.*, page 1 of the Application, lines 18–35.

As described in more detail below, all of the documents cited in the Office Action, in particular the Albert reference, only describe antennas for receiving information and for feeding energy to a circuit. Thus, the concerns addressed by Albert and the other cited references are different from those addressed by the claimed invention. To clarify the context of the claimed invention, independent Claim 1 has been amended to recite that the antenna layer is configured to cooperate with the electronic display to transmit information.

Rejection of Claims 1, 18, 21, and 24–25 under 35 U.S.C. § 102(b)

Claims 1, 18, 21, and 24–25 are rejected under 35 U.S.C. 102(b) as being anticipated by Albert. Albert is directed to an electronically addressable display that can be used as an indicator by changing the state of the display under certain conditions. In some embodiments, the system includes one or more antennae to improve the level of signal reception. Albert, col. 14, lines 18–19. In these embodiments, the display system further includes an energy storage device **320** in communication with a passive rectifier **310**. Fig. 6A; col. 14, lines 19–21. “The energy storage device **320** can be a capacitor, a battery, or any other electrical or non-electrical energy storage device known in the art of energy storage.” Col. 14, lines 21–24.

Albert does not teach or suggest an antenna configured to transmit information. Rather, as acknowledged in the Office Action on page 2, Albert discloses “an antenna 302 that can be a monopole antenna, a dipole antenna, a planar array, a coil or any other antenna structure known in the art of radio reception.” Albert, col. 14, lines 6–10 (emphasis added). Thus, Albert relates to a receiving antenna, whereas Claim 1 is directed to a transmitting antenna.

Furthermore, Albert discloses that the antenna is made on the same substrate as the label itself. *See, e.g.*, Fig. 6B. In contrast, the antenna layer **100** of the claimed invention is arranged on the outside of the front wall **2** of the label housing **5** in order to maximize the transmitted field. Application, Figs. 1 and 2; page 4, lines 25–37.

Moreover, Albert discloses that “the antenna may be disposed in a surrounding relation to the display, allowing power to be received from relatively low-power signals.” Col. 14, lines 10–17. However, Albert is silent about the “relation” between the receiving antenna and the display. A person skilled in the art can only deduce that the display is a disruptive element for maximizing the antenna’s reception.

To the contrary, in the claimed invention, the display **3** forms part of the transmitting antenna by cooperating with the antenna layer **100**. In this regard, the display **3** of the claimed invention comprises a metal part arranged between the heads of the antenna in order to provide a capacitance that helps to maximize the transmitted field of the antenna. *See, e.g.*, Application, page 4, lines 13–37.

In addition, Applicant respectfully submits that the Office Action misinterprets the teachings of Albert in the statements made on page 3 of the Office Action. For example, col. 10, lines 27–40 of Albert, which is cited in the Office Action, relates to a capacitive sensor that has nothing to do with a transmitting antenna. In col. 18, lines 25–35, Albert discusses a bistable display, and the capacitance is not used for any antenna. Rather, the display is a disruptive element for maximizing reception, as discussed above.

In col. 6, lines 27–58, Albert describes a process to deposit a conductive layer on an insulating material. In col. 8, lines 39–55, Albert discloses the use of the display as a voltage sensor for the battery. In col. 9, lines 40–50, Albert discusses the change of state of a display according to a voltage. Finally, in col. 13, lines 12–47, Albert relates a process to produce displays (multilayer sandwich structures). Thus, nowhere does Albert teach or suggest combining an antenna and a display in order to achieve a transmitting antenna with a maximized transmitted field.

Accordingly, Albert does not teach or suggest an electronic label comprising a housing having at least one wall, an electronic display disposed along the wall, and an antenna layer configured to cooperate with the electronic display to transmit information, wherein "the display comprises metal disposed between the first antenna head and the second antenna head such that the first antenna head, the second antenna head, and the display are capable of acting as a capacitor," as recited in Claim 1. Claims 18–21, 24–30, and 34–36 depend from independent Claim 1 and are thus also patentable over the cited art for at least the reasons discussed above.

Rejection of Claims 19–20 under 35 U.S.C. § 103(a)

Claims 19–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Blanc. Blanc discloses a receiving antenna for tags without a battery comprising a twisted flat antenna. Blanc does not cure the deficiencies of Albert. Claims 19–20 depend from Claim 1 and are therefore also patentable for at least the reasons discussed above.

Rejection of Claims 26–30 under 35 U.S.C. § 103(a)

Claims 26–30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Martin. Martin does not cure the deficiencies of Albert. Martin discloses a contactless connection structure between a receiving antenna and an electronic circuit. The antenna ends of Martin have two very large surfaces **46, 48** facing equivalent surfaces of the electronic circuit, and the connection is made by capacitive coupling. In contrast, the antenna of the claimed invention is connected to the electronic circuit through a direct connection (soldering). Application, page 6, lines 26–36.

In addition, Claims 26–30 depend from Claim 1 and are therefore also patentable for at least the reasons discussed above.

Rejection of Claim 36 under 35 U.S.C. § 103(a)

Claims 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Suga. Suga describes a power receiving antenna comprising an antenna coil and a

capacitor 25. A variable impedance circuit is used to produce a desired power supply from the power received by the antenna. Suga, col. 3, line 20. Suga does not cure the deficiencies of Albert. Claim 36 depends from Claim 1 and is therefore also patentable for at least the reasons discussed above.

CONCLUSION

In view of the remarks and amendments presented above, it is respectfully submitted that Claim 1 and all the claims depending therefrom (*i.e.*, Claims 18–21, 24–30, and 36) are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. The Examiner is requested to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

The patentability of the independent claims and some of the dependent claims has been argued as set forth above and thus Applicant will not take this opportunity to argue the merits of the rejection with regard to all of the dependent claims. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of the dependent claims at a later date if necessary.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



Michele M. Glessner
Registration No. 58,713

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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